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INTELLIGENCE MEMORANDUM

DEVELOPMENTS IN THE CUBAN PETROLEUM INDUSTRY IN 1964

DIRECTORATE OF INTELLIGENCE

Office of Research and Reports

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DEVELOPMENTS IN THE CUBAN PETROLEUM INDUSTRY IN 1964*Summary and Conclusions

The supply of petroleum in Cuba in 1964 amounted to almost 4.6 million tons,** more than in any year in its history. Imports from the USSR again, as in other years since the Castro takeover, represented about 99 percent of the total supply of petroleum in Cuba. Domestic crude oil and imports of lubricants from Rumania and sources in Western Europe accounted for the remainder. The value of total imports of petroleum in 1964 was about \$61 million, or about 7 percent of the estimated total value of all goods and services imported by Cuba in 1964.

The quantity of crude oil imported in 1964, about 3.5 million tons, showed no significant change from the annual level of such imports over the last 3 years. Imports of about 1.1 million tons of petroleum products, although substantially higher than in 1963, were similar to the quantities imported in 1962 and 1961.

No widespread shortages of petroleum were evident in Cuba in 1964, and the USSR appeared able and willing to meet Cuba's essential needs. There were reports that Cuba discussed the purchase of petroleum with suppliers in Greece, Algeria, and the UAR, but only in the case of the Egyptians was there evidence of a negotiated contract for future supply.

No important changes in the quantity, composition, or origin of the petroleum supply in Cuba are expected in 1965. Although the refineries in Cuba, built to Free World specifications, continued to operate at remarkably high levels in 1964, troubles arising from the unavailability of replacement parts and equipment may become manifest in 1965.

* The estimates and conclusions in this memorandum represent the best judgment of this Office as of 15 March 1965.

** Tonnages are given in metric tons throughout this memorandum.

I. Supply of Petroleum

The supply of petroleum in Cuba in 1964 amounted to almost 4.6 million tons,* or about 91,000 barrels per day (bpd). This figure represented an increase of almost 10 percent above the level in 1963 and was about equal to the supply in 1962. Almost all of this supply was imported; domestic production of crude oil totaled less than 30,000 tons, unchanged from 1963. Cuba continued to be dependent almost completely on the USSR for imports of petroleum, although several bulk shipments of lubricating oil were purchased from Rumania and several minor shipments of packaged lubricants were delivered from Western Europe. The estimated composition, quantity, and value of Cuban imports of petroleum from 1961 through 1964 are shown in Table 1.**

The supply of petroleum probably was adequate to meet the essential demands of the Cuban economy in 1964. There was a noticeable, but not crippling, decline in the delivery of petroleum to Cuba in September, October, and November. The fact that the rate of delivery in December increased to a level approximately equal to the daily average for the year suggests that the decline in the immediately preceding months was only temporary and did not reflect any unwillingness on the part of the USSR to supply Cuba's petroleum needs. Although shortages occasionally were reported during the year, there is no evidence that either the Cuban economy or the Ministry of Revolutionary Armed Forces (Minfar) suffered from lack of fuel or lubricants. Lubricating oils, especially those for use in internal combustion engines, continued to be in short supply in the civil sector. While total imports of petroleum remained at a high level, imports of petroleum products more than doubled at the expense of imports of crude oil. The estimated consumption of petroleum products in Cuba in 1964 is shown in Table 2.***

II. Imports of Petroleum

A. Composition

Cuban imports of crude oil in 1964 totaled 3.5 million tons, a decline of only about 5 percent from the 1963 level. These imports were about 75 percent of total imports in 1964, compared with almost 90 percent in 1963. Imports of petroleum products in 1964 were 1.1 million tons, representing an increase of about 150 percent above imports of products in 1963. The sharp rise in imports of gas oil and fuel oil, which together accounted for most of the increase, brought the pattern of imports of petroleum products back in line with the patterns registered in 1962 and previous years.†

* Tonnages may be converted to barrels at a nominal rate of 7.3 barrels per metric ton.

** P. 4, below.

*** P. 5, below.

† For a discussion of the effect on petroleum imports resulting from the conversion of the catalytic cracking unit in Havana to a crude distillation unit in June 1962 and its return to operation as a catalytic cracking unit in September 1963, see source 1/. (For serially numbered source references, see the Appendix.)

Table 1

Cuba: Composition of Imports of Petroleum a/
1961-64

| Commodity | 1961 | | 1962 | | 1963 | | 1964 | |
|--------------------|--|---------------------------|--|---------------------------|--|---------------------------|--|---------------------------|
| | Quantity b/ (Thousand Metric Tons) | Value d/ (Thousand \$) | Quantity b/ (Thousand Metric Tons) | Value d/ (Thousand \$) | Quantity b/ (Thousand Metric Tons) | Value d/ (Thousand \$) | Quantity c/ (Thousand Metric Tons) | Value d/ (Thousand \$) |
| Crude oil | 3,000 | 32,000 | 3,600 | 36,000 | 3,700 | 43,000 | 3,500 | 40,000 |
| Petroleum products | 1,100 | 16,000 | 920 | 18,000 | 440 | 12,000 | 1,100 | 20,000 |
| Aviation gasoline | N.A. | N.A. | 22 | 660 | 15 | 430 | 14 | 400 |
| Motor gasoline | 92 | 3,000 | 180 | 5,500 | 170 | 4,800 | 110 | 3,100 |
| Jet fuel | N.A. | N.A. | 20 | 530 | 19 | 500 | 15 | 390 |
| Diesel/gas oil | 84 | 1,800 | 100 | 2,200 | 10 | 250 | 170 | 4,000 |
| Fuel oil | 840 | 7,800 | 540 | 4,400 | 180 | 1,900 | 710 | 7,700 |
| Lubricants | 45 | 3,700 | 52 | 4,400 | 53 | 4,400 | 57 | 4,700 |
| Total | 4,100 | 48,000 | 4,600 | 54,000 | 4,200 | 55,000 | 4,600 | 61,000 |

a. All figures have been rounded to two significant digits. Because of rounding, components may not add to the totals shown.
b. Estimated on the basis of data shown in source 2/ modified to reflect data shown in cargo manifests, shipping reports, and other reliable source material.

c. Estimated on the basis of data reflected in cargo manifests, shipping reports, and other reliable source materials. Estimates are based on date of arrival in Cuba in calendar year 1964 rather than on date of departure from ports of loading.

d. Value f.o.b. estimated on the basis of average prices shown for similar items in source 3/.

Table 2

Cuba: Apparent Consumption of Petroleum Products a/
1964

| Thousand Metric Tons | | |
|----------------------|---------------------------|-------------------------|
| <u>Product</u> | <u>Quantity <u>b/</u></u> | <u>Percent of Total</u> |
| Aviation gasoline | 14 | Negl. |
| Motor gasoline | 880 | 20 |
| Jet fuel | 15 | Negl. |
| Kerosine | 210 | 5 |
| Diesel/gas oil | 740 | 16 |
| Fuel oil | 2,500 | 54 |
| Lubricants | 57 | 1 |
| Other | 200 | 4 |
| Total | <u>4,600</u> | <u>100</u> |

a. All figures have been rounded to two significant digits. Because of rounding, components may not add to the totals shown.

b. On the basis of estimated imports of petroleum products in 1964 plus an end-product breakdown of 1964 imports of crude oil as indicated in the 1964 plan for refinery production. 4/

Imports of aviation gasoline remained essentially the same in 1964 as in 1963, and imports of jet fuel also were relatively unchanged from previous years. The apparent production of jet fuel at the Havana and Santiago refineries contributed nominally to the total supply of jet fuel.

Imports of motor gasoline in 1964 were about 35 percent less than in 1963. The decline may reflect renewed domestic production of high-grade gasoline made possible by the operation of the catalytic cracking unit in Havana and a possible reduction in demand as a result of continued decline in the number of privately owned automotive equipment in use.

In 1964, Cuba imported a full line of lubricating oils and greases adequate in quantity and quality to meet essential civil and military requirements. The source of lubricants, however, shifted from previous years. Whereas only negligible quantities were procured from non-Soviet sources in earlier years, about 30 percent of the supply of lubricants came from Rumania in 1964. The rest of the lubricants came primarily from the USSR, although indeterminate quantities of finished lubricants, as well as chemical additives, were obtained from suppliers in Western Europe and Hungary. Over-all imports of lubricants rose moderately in

1964, and imports of internal combustion engine oils alone increased from an estimated 25,000 tons in 1963 to about 39,000 in 1964.

B. Value

The estimated value of total Cuban imports of petroleum in 1964 was about \$61 million, about 11 percent higher than in 1963.* The value of these imports represented about 7 percent of the total Cuban import bill for all goods and services in 1964. Imports of crude oil comprised about 65 percent of the total estimated value of imports of petroleum in 1964, compared with almost 80 percent in 1963. Increased imports of generally more expensive petroleum products, accompanied by a decline in imports of crude oil, explain the downward shift in the share which the value of crude oil represented in the total value of petroleum imports.

C. Ocean Movements of Petroleum

Approximately 95 percent of the Cuban imports of petroleum originated from Black Sea ports. Except for a few movements of packaged lubricants from Western Europe, the remaining 5 percent originated from Soviet Baltic Sea ports. It is possible that the decline in the deliveries of petroleum to Cuba in September, October, and November may have been related to tanker transport problems. Except for that period, there were no serious delays in the supply of petroleum that could be attributed to transport difficulties.

About 80 percent of the petroleum supplied to Cuba in 1964 was carried in Soviet Bloc tankers, compared with about 66 percent in 1963. The increased participation of Bloc tankers in the Cuban petroleum trade is, in part, a direct result of the decision of the Mavroleon Shipping Group (UK) and the Greek government to withdraw ships under their respective jurisdictions from the Cuban trade, as charters with the USSR expired. 5/ The Mavroleon tankers (British, Greek, and Norwegian registry) accounted for more than 16 percent of the petroleum movements in 1964. By the end of November 1964, two or three tankers of Italian registry were the only Free World tankers still carrying petroleum to Cuba. Free World tankers probably will carry only about 5 percent of the supply of petroleum to Cuba in 1965.

III. Domestic Developments in the Petroleum Economy

A. Exploration and Production

Exploration activities in Cuba in 1964 have not changed the earlier estimate that Cuba will not become a significant producer of petroleum in the near future. 6/ Drilling took place off the north coast of Cuba on Cayo Frances, Cayo Lucas, Cayo Frago, and also in the Central Basin. No success has been noted at any of the new drilling sites.

* Because price data for 1964 are not available, 1963 prices were used to prepare the estimate.

The meager production of crude oil in 1964 came primarily from the small Cristales oilfield in the Central Basin. Total production is estimated to have been less than 30,000 tons, substantially unchanged from 1963. Domestic production continued to account for less than 1 percent of total supply.

B. Refining

All principal processing units at the three refineries are believed to have been in operation.* There is no evidence that any new refining units were installed in 1964. The decline of imports of crude oil in 1964 suggests a corresponding moderate decline in refinery throughput during the year. Deliveries of crude oil to the Nico Lopez refinery (a combination of the former Esso and Shell refineries) in Havana, with a throughput capacity of about 63,000 bpd, indicate that this refinery probably operated during 1964 at a rate of almost 51,000 bpd. The Hermanos Diaz refinery (formerly Texaco) at Santiago de Cuba, with a crude throughput capacity of 20,000 bpd, apparently operated almost at capacity, as did the 2,000-bpd refinery at Cabaiguan in Las Villas Province. 7/ About one-fourth of the throughput at the Cabaiguan refinery was domestic production. The modest decline in over-all refinery throughput probably reflects, in part, restoration of full-time operation of the catalytic cracking unit at the Nico Lopez refinery and possibly longer periods of downtime of process equipment.

Manufacture of kerosine-type jet fuel (grade JP-1) was noted for the first time in 1964, principally at the Hermanos Diaz refinery in Santiago de Cuba. 8/ Although it had been estimated that both the Havana and Santiago refineries were capable of producing jet fuel, there had been no evidence of its manufacture until 1964. Production of jet fuel is at the expense of production of kerosine and diesel fuel. Civil demand for kerosine and diesel fuel is important enough to restrict the manufacture of jet fuel.

There are currently no facilities in Cuba for the manufacture of high-quality lubricating oils and greases. Negotiations were begun with a West European firm, however, on the possibility of building a lubricants-manufacturing plant in Cuba at some unspecified future date. 9/ The USSR supplied Cuba with about 70 percent of its lubricants in 1964, and Rumania supplied most of the balance. Additives and some finished lubricants apparently were imported from Western Europe and Hungary. 10/ Cuba continued to blend a large part of its internal combustion engine oil supplies. Soviet grade MS-20, a heavy (SAE-50) engine oil, is blended with machine oil to obtain engine oils of intermediate SAE grades.

* Although the status of the catalytic reforming unit at the former Texaco refinery in Santiago de Cuba is not known, there were reports that in 1964 the Powerformer at the former Esso plant operated at 4,200 bpd and that the Platformer at the former Shell plant operated at 3,000 bpd.

C. Procurement of Petroleum Supplies and Equipment

The USSR appeared to be able and willing to meet Cuba's essential needs for petroleum and equipment for the petroleum industry. There were reports during 1964, however, of discussions between Cuba and various Western suppliers of petroleum in the UAR, Algeria, and Greece. It is not known at whose initiative these discussions took place. The only reasonably firm contract known to have resulted from these discussions involves the purchase from the UAR of as much as 300,000 tons of fuel oil for delivery during 1965. (The UAR previously had sold 10,000 tons of fuel oil to Cuba in 1963.)

Imports of equipment during 1964 apparently were limited to Soviet refinery maintenance parts and Rumanian auxiliary drilling equipment. In addition, a Dutch firm was reported to be supplying catalyst for the cracking unit in Havana. 11/ A technical assistance pact was signed with the East German petroleum industry in early 1964, but there is no evidence that any assistance has been rendered. Cuba currently is reviewing bids from Czechoslovakia, Italy, and a joint French-Spanish venture on one or more desulfurization units for delivery in late 1966 or early 1967. French and Italian firms have bid on a gas turbine compressor to replace the undersize Soviet compressor installed on the catalytic cracking unit in Havana, and another French firm has offered to build large-capacity storage tanks at the Havana refinery. 12/ As with most of the discussions with Western suppliers for the purchase of petroleum, however, there is no evidence that any contracts for such equipment have been signed.

IV. Prospects for 1965

No important change is expected in the supply or consumption pattern for petroleum in Cuba in 1965. Domestic production probably will remain at the same low level as in 1964. The USSR again will provide most of Cuba's imports of petroleum. Rumania and, to a lesser extent, Free World sources will supply Cuba with part of its imports of lubricants and related materials. With continuing world-wide surpluses of petroleum, it is wholly likely that, given suitable conditions for trade, Cuba would purchase petroleum from such non-Soviet sources as Algeria, the UAR, and Iran (through members of the consortium).

A preliminary refinery plan for production of 3.2 million tons of products has been reported for 1965, indicating a modest reduction from the 1964 level of refinery crude oil throughput. 13/ It should be noted, however, that the 1964 plan also called for about 3.2 million tons, whereas actual throughput was about 3.5 million tons. Imports of products in 1965 again will be in the order of 1 million tons.

Although the refineries in Cuba have been able to operate at remarkably high levels in the years since the Castro takeover, it may be expected that crude oil will be processed at progressively decreasing throughput rates. Cuban and Soviet ingenuity notwithstanding, it would be unreasonable to expect that these refineries, built on Free World

standards and specifications, could operate effectively indefinitely in the absence of replacement parts and equipment from the Free World sources. Evidence of troubles in the refining sector may become manifest during 1965.

Continued lack of success in finding oil at the locations currently being drilled may result in curtailment or relocation of that activity. Conversely new geological surveys may be conducted to find the new possible sources of oil that Cuba needs so desperately.

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APPENDIX

SOURCE REFERENCES

[REDACTED]

1.5(c)
3.4(b)(1)

[REDACTED]

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